

# SUSTAINABLE ENERGY STRATEGY

FY2009

ANNUAL REPORT | City of Las Vegas Office of Sustainability



# SUSTAINABLE ENERGY STRATEGY

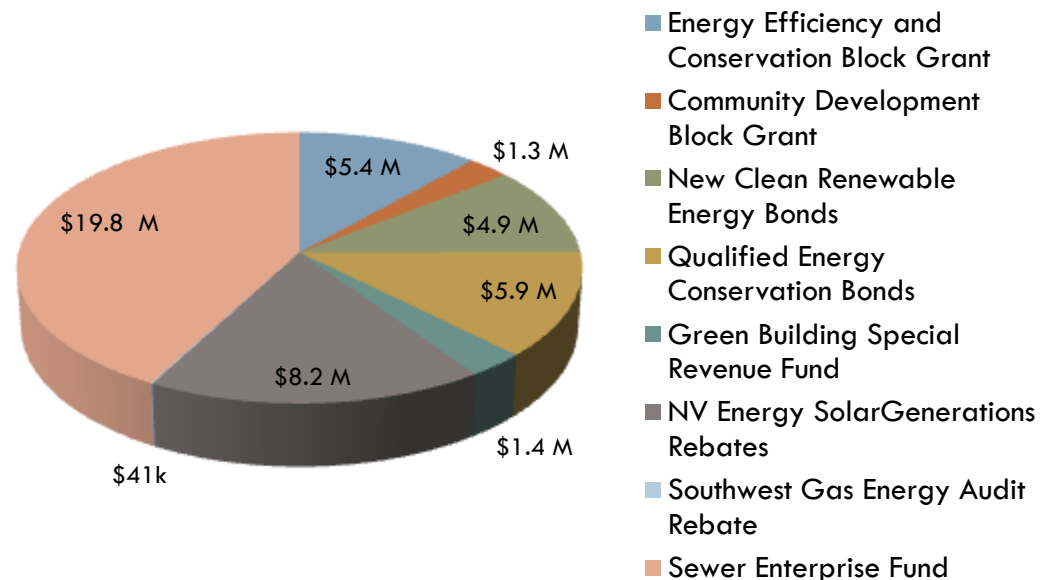
## ANNUAL REPORT FY2009

### INTRODUCTION

The Sustainable Energy Strategy (R-50-2008) is a comprehensive strategy that recommends investments in energy conservation and renewable energy. The Office of Sustainability, created in 2010 within the City manager's Office, leads and works alongside City departments to meet all renewable energy, energy efficiency and community program goals established in the Sustainable Energy Strategy.

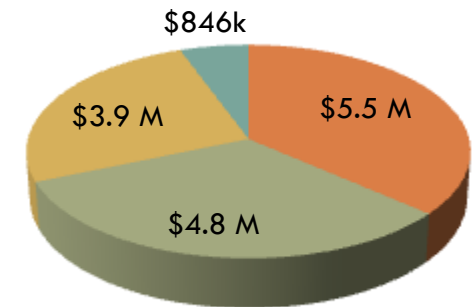
A diverse range of funding sources is being used to implement the Sustainable Energy Strategy. A combination of Recovery Act grants and bonds, utility rebates, and municipal special revenue funds have allowed the City to make a significant investment in renewable energy and conservation by leveraging minimal general operating funds. With a total program budget of \$47 million, 63% has been spent or placed under contract in FY2009.

**Funding Sources**

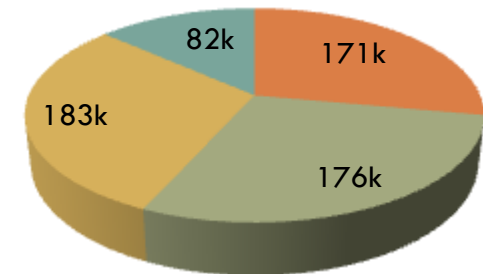


## ENERGY SNAPSHOT

	FY2009	FY2010 projected
<b>Renewable Energy</b>		
Installation	25kW solar system at Fire Station 6	4.875 MW of renewable energy installed at 11 city facilities
Generation	n/a	9.66 million kWh annually
Renewable Energy Portfolio	9.7% (purchased through utilities)	15% projected; surpassing 2011 target of 10%
<b>Conservation/Efficiency</b>		
Facility Retrofits	1 retrofit completed	11 retrofits planned
Streetlight Retrofits	0	10,000 lights
Energy Savings	109,719 kWh	10 million kWh annually
<b>Overall Impacts</b>		
Energy Consumption (Electricity + Natural Gas)	614,800 MMBTU	553,800 MMBTU (-9.9%)
Greenhouse Gas Emissions	129,404 metric tons	116,617 metric tons (-9.8%)
Annual Energy Costs (Electricity + Natural Gas)	\$15.21 million	\$13.35 million (-12.2%)

**Energy Costs**

- Public Facilities
- Wastewater Treatment
- Streetlights
- Natural Gas Service

**Energy Consumption (MMBTU)**

## WHERE WE ARE TODAY: FY2009

## City Operations

	ACCOMPLISHMENTS
Sustainability Decision Making	Major capital projects and policies are now evaluated in terms of sustainable principles
Investment in Renewable Energy	25 kW solar installed; 850 kW solar under contract; 4 MW at 30% design, funded and under contract
Reduction of Electricity Consumption	15 facility audits completed; 1 retrofit completed; Streetlight retrofit strategy completed
Sustainable Purchasing Policy	Approved May 2009
Contracting Policy	Departments now using sustainable practices criteria consistent with Nevada Revised Statutes

## City Codes, Regulations &amp; Policies

Green Building Program	Re-launched July 2009 with mandates and incentives for new and existing development
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## Community Involvement

HomeFree Nevada	Under contract with CLV to provide incentives for energy audits and retrofits
Green Chips	2 non profit audits and retrofits completed; 7 low-income residential audits and retrofits completed; Convene For Green community planning exercise underway; under contract with CLV to administer energy retrofit revolving loan fund

## RENEWABLE ENERGY INVESTMENT

## Solar Covered Parking



## Phase I

Parking spaces:	849
Capacity:	850 kW
GHG reduction:	1,050 tons
Cost:	\$9 million
Funding source:	ARRA + NV Energy Rebates
Annual savings:	\$175,440

Solar Generation  
at Wastewater Treatment Plant

Capacity:	4 MW
GHG Reduction:	3,996 tons
Cost:	\$19.75 million
Funding source:	Sewer Enterprise Fund
Annual savings:	\$792,000

## AROUND THE CORNER: FY2010

City Operations	ON TARGET
Sustainable Decision Making	Development of Hara energy management tool to evaluate policies and programs
Investment in Renewable Energy	4.875 MW installed; will exceed 2011 target of 3 MW by 62%
Reduction of Electricity Consumption	Completion of facility and streetlight retrofits projected to save 10 million kWh annually or 5.6%; will exceed target of 5% by 2011
Carbon Footprint	116,617 metric tons (-9.8%), will meeting target of 10% by 2011
Reinvestment in Energy Projects	\$300,000 projected savings to be reinvested
Alternative Fuels	City employees eligible to participate in RTC Electric Bike Program

## City Codes, Regulations &amp; Policies

Form-based Sustainability Zoning Code	Scheduled for adoption
2009 International Energy Conservation Code	Scheduled for adoption
Green Building Program	New emphasis on small commercial and non-profit retrofits

## Community Involvement

HomeFree Nevada	Full launch of Home Performance with ENERGY STAR; retrofit incentives fully implemented
Green Chips	Implementation of Revolving Loan Fund for energy retrofits



CLV LEED buildings:	5 registered
Public LEED buildings:	5 certified
Private LEED buildings:	7 certified
New Homes:	27
Energy audits:	500
Energy retrofits:	50

**Shade Tree Non-Profit Retrofit**

Energy reduction:	10%
Monthly Savings:	\$500
Audit value (donated):	\$10,000
Retrofit (CLV Grant):	\$30,000
Retrofit (leveraged):	\$60,000
Total Project Value:	\$100,000

**Low Income Residential Retrofits**

Residential Retrofits:	7
Average cost:	\$7,400
Average energy reduction:	30%
Average monthly savings:	\$58
Leveraged funds:	\$26,447
CLV Grant:	\$53,000
Total Project Value:	\$79,447

## 2009 AWARDS &amp; RECOGNITION



## U.S. DEPARTMENT OF ENERGY

City of Las Vegas named as one of the Top Ten Energy Efficiency and Conservation Block Grant Programs in the nation



AIA Nevada  
Sustainable Practice Service Award  
City of Las Vegas Sustainable Energy Strategy



State of Nevada ranked as 6<sup>th</sup> GREENEST STATE  
by Greenopia.com



USGBC Nevada Chapter  
Community Contribution Award  
Tom Perrigo/Green Building Program



City of Las Vegas ranked 7<sup>th</sup> Top U.S. City  
for Green Energy Programs

## ON THE HORIZON: 2011 & BEYOND

The Office of Sustainability will continue to look for new opportunities to conserve energy, increase efficiency, and reduce operating costs by integrating sustainability practices into City operations.



*Solar-charged Plug-In Stations  
for Electric Vehicles*



*Wind turbines*